REMARKS

The claims previously in the case have been replaced by a set of new claims that are believed to be proper as to form and clearly patentable over the cited references.

When drafting the new claims, careful attention was paid to the criticism of the form of the previous claims, which criticisms are believed to be overcome by the new claims.

Reconsideration is respectfully requested, for the rejection of the claims as being anticipated by BERGENS et al.

At the outset, it should be noted that the object of the present invention is to provide a mechanism in which minimal and preferably no pressure is transmitted by the drive plunger to the piston in the syringe after the syringe has penetrated the patient's flesh. This ensures that there is no wastage or prior dribble from the needle before it has penetrated the flesh.

BERGENS et al. does not teach this, and certainly does not teach it by the mechanism of the present invention, for the following reasons:

In the first place, we think it impossible for a person of ordinary skill in the art to determine precisely how BERGENS et al. operates. One possible explanation of BERGENS et al., could be that there is a mainspring 141 that acts between the rear end of the housing and the injection head 142 having a generally U-shaped form with legs 143. The aggregate 150 comprises a front part 151 and a rear part 153. The front end of

the item 150 bears against the barrel rear end or finger grip 124 of the syringe. The front part 151 and a rear part 153 are urged apart by the spring 156.

The BERGENS et al. mechanism might operate such that on release of the first spring 141 the injection head 142 is urged forwardly, driving the penetration head aggregate 150 forwardly and thus urging the syringe barrel forwardly by engagement of the forward end of the penetration head aggregate with the syringe barrel. During this phase the spring 156 would not alter its state (in other words, the spring 156 has more than enough bias to react to any inertia or friction forces). However, when the syringe barrel stops and is prevented from further forward movement, the continued action of spring 141 compresses the spring 156 so that the penetration head assembly 150 contracts, exposing cam surfaces which squeeze together the legs 143 of the injection head so that the injection head 142 can then pass inside the penetration head aggregate 150 to bear on the end of the syringe plunger and thus expel the dose.

Thus, if this guess is correct, the spring 156 is in a load path, sandwiched between the parts 151 and 153 making up the penetration head aggregate which itself is in a load path made up of the main spring 141, the injection head 142, (the penetration head aggregate 150) and the barrel of the syringe. Thus 156 does not act in opposition to the first spring *when the plunger presses the piston forward to eject the dose,* because the action

of the spring 156 is decoupled from the drive plunger before the drive plunger presses the syringe piston.

Thus, once the spring 156 has been compressed, the injection head 142 shoots forward to impact the syringe plunger and then the load path is from the main drive spring 141 to the injection head 142, thence directly to the syringe plunger and the bund/dose within the syringe. The spring 156 is not in this load path (the spring 156 and the components 151 and 153 are now defunct because the main action of the drive spring 141 is now transmitted directly to the syringe plunger via the injection head 142), and the penetrative head aggregate serves no function at this point.

In the second place, even if this suppositional operation of BERGENS et al., as set forth above, is correct, then BERGENS et al. would not meet our new claim 9, because, during the operation of BERGENS, the second spring does not act in opposition to the first spring when the plunger presses the piston forward to eject the dose, as is required by new claim 9.

Also, it is not accurate to assign to the spring 156 of BERGENS et al. the function required by our new claim 9, "whereupon the first spring, as it fully expands, will then compress the second spring to urge the plunger forward and thereby move the piston and expel the dose within the syringe, the second spring meanwhile serving to retain the syringe seated at its forward position". This language of our basic claim

requires the spring to be compressed as the plunger is urged forward and as the dose is expelled from the syringe. BERGENS et al., on the other hand, does not teach this feature and indeed could not, because once member 143 of BERGENS et al. has disengaged from surface 161 (see Figure 1b) and moved to the position of Figure 1c, there will be little or no force remaining to compress the spring 156 as the plunger expels the dose from the syringe.

In other words, even if the operation of BERGENS et al. can be deduced, the only possible such operation still would not meet our new claim 9, for the reasons given above.

Claims 10-13 depend from claim 9 and are patentable therewith, and also by virtue of the further features of novelty that they separately recite.

In view of the present amendment and the foregoing Remarks, therefore, it is believed that this application has been placed in condition for allowance, and reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any

overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON

for Kin Jones 37,855

Robert J. Patch, Reg. No. 17,355
745 South 23rd Street
Arlington, VA 22202
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

RJP/fb